

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of the claims as follows:

1. (Previously presented). A radiosensitizer agent for treatment of cancer and tumors, said radiosensitizer agent comprising an aqueous solution of a halogenated xanthene, said halogenated xanthene interacting with ionizing radiation applied to said cancer or tumor to enhance the therapeutic efficacy of said ionizing radiation, wherein said halogenated xanthene comprises 4,5,6,7-tetrabromoerythrosin.

2-3. (Canceled)

4. (Previously presented) The radiosensitizer agent of Claim 1 wherein said halogenated xanthene includes as a functional derivative at least one targeting moiety selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors or complexing agents, lipid receptors or complexing agents, protein receptors or complexing agents, chelators, short- or long-chain aliphatic or aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitriles, and azides.

5-9. (Canceled)

10 (Previously presented). A radiosensitizer agent for treatment of cancer and tumors using ionizing radiation, said radiosensitizer agent comprising an aqueous solution of a halogenated

xanthene wherein said halogenated xanthene is activated using x-rays having an energy greater than 30 keV, said halogenated xanthene comprising 4,5,6,7-tetrabromoerythrosin.

11-13. (Canceled)

14. (Currently amended) A radiosensitizer agent for treatment of cancer and tumors, said radiosensitizer agent comprising an aqueous solution of a halogenated xanthene, said halogenated xanthene interacting with ionizing radiation applied to said cancer or tumor to enhance the therapeutic efficacy of said ionizing radiation, wherein said halogenated xanthene comprises 4,5,6,7-tetrabromoerythrosin. ~~The radiosensitizer agent of Claim 1~~ wherein at least one biological targeting moiety is attached to said halogenated xanthene to enhance targeting of said halogenated xanthene to biologically sensitive structures of said cancer or tumors.

15. (Previously presented) The radiosensitizer agent of Claim 1 wherein at least one chemical targeting moiety is attached to said halogenated xanthene to enhance targeting of said halogenated xanthene to biologically sensitive structures of said cancer or tumors.

16-50. (Canceled)

51 (Previously presented). A radiosensitizer agent for treatment of cancer and tumors using radiosensitization or ionizing radiation, said radiosensitizer agent comprising an aqueous solution of a halogenated xanthene wherein said ionizing radiation is approximately greater than or equal to

1 keV and less than or equal to approximately 1000 MeV, said halogenated xanthene comprising 4,5,6,7-tetrabromoerythrosin.

52. (Previously presented) The radiosensitizer agent of Claim 1 wherein said ionizing radiation is approximately greater than or equal to 1 keV and less than or equal to approximately 1000 MeV.

53-54. (Canceled)

55. (Previously presented) The radiosensitizer agent of Claim 1 wherein said halogenated xanthene includes as a functional derivative at least one targeting moiety selected from the group consisting of hydrophilic and hydrophobic moieties.

56. (Previously presented) The radiosensitizer agent of Claim 1 wherein said ionizing radiation comprises x-rays.

57. (Previously presented) The radiosensitizer agent of Claim 56 wherein said x-rays have an energy between 30 kiloelectron volts and 1000 megaelectron volts.

58-60. (Canceled)

61. (Previously presented) The radiosensitizer agent of Claim 10 wherein said halogenated xanthene includes as a functional derivative at least one targeting moiety selected from the group

consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors or complexing agents, lipid receptors or complexing agents, protein receptors or complexing agents, chelators, short- or long-chain aliphatic or aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitriles, and azides.

62-64. (Canceled)

65. (Previously presented) The radiosensitizer agent of Claim 51 wherein said halogenated xanthene includes as a functional derivative at least one targeting moiety selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors or complexing agents, lipid receptors or complexing agents, protein receptors or complexing agents, chelators, short- or long-chain aliphatic or aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitriles, and azides.

66. (Previously presented) The radiosensitizer agent of Claim 51 wherein said halogenated xanthene also is an imaging contrast agent.

67.(Canceled)

68 (Previously presented). A radiosensitizer agent for treatment of cancer and tumors, said radiosensitizer agent comprising a halogenated xanthene, said halogenated xanthene interacting with ionizing radiation applied to said cancer or tumor to enhance the therapeutic efficacy of said ionizing

radiation, wherein at least one biological targeting moiety is attached to said halogenated xanthene to enhance targeting of said halogenated xanthene to biologically sensitive structures of said cancer or tumors.